Neighborhood Planning for Community Revitalization

Housing Early Warning System Feasibility in the Hamline Midway Area

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Feasibility of the Housing Early Warning System in Hamline Midway

Eric Myott
1/1999

Outline

I .Introduction.

The Hamline Midway Neighborhood in St. Paul experienced falling home values in the late 1980's and early 1990's. Neighbors became concerned with declining housing prices, housing deterioration, and the presence of vacant units in the area. The concerned neighbors decided that the creation of a local community development corporation was necessary for the renovation of decaying and vacant properties. The Hamline-Midway Area Rehabilitation Corporation (H-MARC) began in 1991 to rehabilitate existing housing stock. Today H-MARC is a community development corporation (CDC) involved with rehabilitation grants as well as loans to low and moderate income residents in the area and purchase and rehabilitation sales to potential homeowners that want to live in Hamline-Midway.

Beth Hyser, director of H-MARC, became interested in the prospects of the Early Warning System (EWS) for housing from a University of Minnesota Center for Urban and Regional Affairs forum discussion about the Chicago and Minneapolis EWS. She is interested in the potential of the early warning system for finding pro-active strategies to address distressed properties. Early warning systems use data about housing and variables related to housing problems that may help organizations predict a home in distress.

The purpose of this study is to determine if the early warning system is feasible to H-MARC and the Hamline-Midway neighborhood. The study will look at demographic and housing conditions in Hamline-Midway, organizational capabilities of groups involved with the system, and the accuracy of indicators to predict housing distress and decline.

The report will review other EWSs implementations in Chicago, Los Angeles and Minneapolis. I will then draw from the impacts, plans, and problems of the uses and maintenance of each of these systems. Because St. Paul and Ramsey County are attempting to create a integrated database system, I describe what it means for community organizations and how it complements the potential for a EWS.

The report will also determine if particular indicators for housing distress show up in the Hamline Midway area. I will analyze each of these indicators ability to detect housing distress and examine the relationships between them. The report will summarize these indicators with a proposed model for an EWS in Hamline Midway.

Because these indicators will emphasize deficiencies in the Hamline Midway neighborhood, I will assess H-MARC and the communities' ability to confront housing distress in the area. The report will also examine the need for collaboration between local government and community groups. I will then examine potential sites for the maintenance and analysis of EWS indicators. The report will conclude with an assessment of an early warning system's feasibility in Hamline Midway and H-MARC's ability to use the system. In this conclusion, I will summarize the reasons EWS would or would not work in Hamline Midway and if feasible what would be needed for the implementation of EWS.

II. Background.

The Hamline-Midway area in St. Paul is located in between downtown Minneapolis and St. Paul. Its 150 blocks are bounded by University Avenue to the south, Pierce Butler Route to the north, Lexington Avenue in the

east, and Transfer Route in the west. Hamline Midway's residential area is surrounded by railroads and industry to the north and west and the Midway shopping area to the south. Hamline-Midway's only residential connectivity is with the Frogtown neighborhood in the east.

More than 50% of households in Hamline Midway have lived in the area for over 10 years, although only 48% of 1990 residents lived in the same house in 1985. This differs from the city average of 50.1%. Median county assessed home value of owner occupied housing in 1990 is $63,400 compared to $70,200 city-wide. These values have increased from $62,000 in 1993 to $73,000 in 1996, though values have increased there are a substantial number of single family homes that have seen values decline.[1] Widespread declining property assessments in neighboring Frogtown should be a concern for Hamline-Midway because of its residential connectivity to that neighborhood[2].

It should be noted that county assessed property values are typically lower than actual sales prices. Actual sales prices were on average 17.46% higher than the county assessed value in 1997. Of the 148 houses sold in Hamline Midway in 1997, 20 were sold for less than the county assessed value.[3]

1990 unemployment rates in Hamline-Midway were 5.6% compared to 6.0% in the city and 1990 median household income in St. Paul was $26,498, compared to $26,351 in Hamline-Midway. Of its 11,829 residents in 1990, 1,166 (or 10%) live in poverty. This is a 14% increase since 1980.

Hamline-Midway is facing changes that typically occur in transitional neighborhoods, Crimes have risen steadily from 1,053 in 1990 to 1,466 in 1996. Violent crimes have climbed steadily from 93 in 1990 to 145 in 1996. This has spurred concerns from the community and block groups have been created in part to foster neighbors' trust with one another. Though crime has risen in Hamline-Midway, per capita rates are average in comparison with St. Paul as a whole. The strategy in Hamline Midway to stop crime is to strengthen informal networks in the neighborhood, create after-school youth programs and generate trust between neighbors.[4]

Hamline-Midway is becoming a more diverse community. In 1990 88% of Hamline Midway residents were white. A sign that Hamline Midway is becoming more diverse is that only 60% of children in private and public schools, who live in the community, are white. Changing racial and ethnic populations in transitional neighborhoods are common. Hamline-Midway has set goals to celebrate and embrace diversity, while attempting to create a community where people do not leave because of fears associated with racial and cultural differences.[5]

Housing in the Hamline Midway area began to develop around Hamline University about 1890. The neighborhood houses a population of 11,837. Hamline Midway is primarily a residential neighborhood with 60% of its units homesteaded, the 40% of the remaining units are rentals. Forty percent of the renters live in complexes with 10 or more units. The average age homes were built in Hamline Midway is 1918 and 70% of Hamline Midway

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[1] From 1996 to 1997 66 properties saw their county assessed values decline.
[2] Based on conversion of 1992 values to 1998 values using Twin Cities CPI. From part of report prepared by the staff of the Department of Planning and Economic Development. Sept. 9th 1998.
[3] Comparison of 1997 MLS sales list and 1997 Ramsey County assessment property values.
[4] 1998 Hamline Midway Community Plan, created by a collaboration of Hamline Midway residents, businesses, and organizations

homes were built before 1940. Approximately 238 of houses in the neighborhood were built before 1900. Many of the homes built before 1900 (49%) are located within three blocks of Hamline University.

The 1997 median county assessed property value was $65,754 in Hamline Midway[6]. Property values tended to be highest surrounding Hamline University. The average property value within a three-block radius of Hamline University was $71,548. Homes built before 1900 have an average property value at $65,934 within the Hamline University radius, while pre-1900 homes outside the radius averaged $55,145. These older homes may need substantial renovations if Hamline Midway wants to invest in its historical amenities.

Areas in Hamline Midway that had the lowest property values were along University Avenue ($61,870 within a two-block radius) and along the western boundary where most industry in Hamline Midway is located ($61,338 within a one-block radius). Although there are differences in average property values in Hamline-Midway, there are no areas with exclusively low or high valued homes. For example, some properties along University Avenue have homes with high property values, and some properties around Hamline University have low property values.

It is difficult to forecast how Hamline Midway housing values will change in the next ten years. Over the last ten years values have dropped and then risen. Problems of unemployment, crime and aging housing stock have also become more predominant in the 1990's. These problems coupled with changing demographics and a lack of affordable housing will likely continue to need to be addressed.

One of the main housing strategies in the 1998 Hamline Community Plan is to address problem properties in a pro-active manner. Measuring distress should be directly relevant to analyzing alternative action programs (Sawicki and Flynn 1996). Therefore, the Housing Early Warning System (HEWS) should be designed for community groups to address housing problems in a pro-active and preventative manner appropriate to their community and capacity.

III. Early Warning Systems

During the 1970's to the present major industries moved out of U.S. cities. Often whole city neighborhoods were devastated by the movement of industry to suburbs or overseas where lower wages could be paid to workers. In Chicago, the closure of factories left immobilized workers without living wages and communities faced economic disinvestment.

Unions had little support in the political arena to stop the closures. They were faced with the need to join collaborations with community based and grassroots organizations to halt the shutdowns. A tactic for these groups was the development of a factory early warning system (EWS) to detect potential closings so they could develop strategies before a plant closed down. Through the Midwest Center for Labor Research, plant-closing activists have determined ten major indicators that a factory was in danger of closing. These include disinvestment, ownership problems, declining sales and employment, mismanagement, duplicate capacity, management instability, changes in

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[5]Ibid. 1998 Hamline Midway Community Plan

[6] 1997 County Assessed Value. Property values reflect properties of 1 to 4 units.

land use, complaints about the business climate, inadequate research and development and changes in management behavior (Kamel 1990).

The factory EWS has worked when labor unions, community groups, religious institutions, and local government built coalitions to solve a common problem. Using the factory EWS model from Chicago, groups across the nation have been able to form coalitions and effectively prevent plant closings, purchase factories for the community, bring a political voice to lower wage workers, and to change economic, environmental, and business state policies and laws. For example, a group in West Virginia was able to use eminent domain to prevent a company from leaving their municipality (Kamel 1990).

The success of the factory EWS in Chicago prompted housing advocates and community groups to seek an EWS for housing called the Neighborhood Early Warning System (NEWS). Chicago faced many housing problems including economic disinvestment, discriminatory redlining practices of housing and banking organizations, slumlords, unemployment, arson, vacancies, and substandard building structures and amenities.

The Chicago NEWS was spearheaded by the Center for Neighborhood Technology (CNT). CNT was able to work with the city for access to housing data. The effort between CNT and city departments enabled information pertinent to NEWS indicators to be released. Today NEWS has a web site where data about code violations, housing court cases, water arrears, property tax delinquencies, fire records, and real estate, sales, buyer and assessment information is used by community housing groups.[7] CNT has been effective for some groups. For example, one neighborhood group was able to identify houses with economic distresses where elderly residents reside. They then were able to incorporate funding and became a resource for the aging population in their community.

The philosophy of CNT has focussed on making information available for community. However, CNT has lacked the training or the organizing effort necessary for community or grassroots organizations to make assessments about using NEWS. For example, many housing groups have not been able to demonstrate the predictability of NEWS or demonstrate how they have used it to solve problems.

Groups implementing Chicago NEWS have struggled to update their records so information at the web site can fall as much as two years behind. It has also been difficult for CNT to update their web site because funding has dried up. The CNT web site has had monthly periods where updates have not been made. Also, there has been lack of documentation from collaborating groups to demonstrate efforts to create change in neighborhoods or in economic and housing policies[8]

In the case of the Chicago NEWS, the strong city and foundational support for CNT's HEWS weakened. This may have been because there was a lack of understanding about the roles and responsibilities of each group. One obvious problem was that the city housing staff responsible for updating NEWS were later transferred to the planning department. New members of the housing department were unable to keep up with the updates (Krouk et. al. 1998).

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[7] Site at http://www.cnt.org/news/

[8] Recently, Chicago NEWS received foundational support. Previously NEWS was supported by the City of Chicago and TIIAP, but the funding was dropped.

It is important to note here the need for whole departments to commit to sharing information for EWS, rather than select individuals (Millinis 1999).

An information system in Seattle has begun where community groups help develop land use, zoning, and design plans for their neighborhoods. This model is not based on disinvestment, but on planning information. The Seattle model has struggled to gather inputs at the grassroots level. Planners and professionals have used this system, but community group members have not (Krouk, Pitkin and Richman 1998).

In HEWS implementations in New York, Los Angeles and Minneapolis there is a growing concern by researchers as to how well these indicators predict housing distress or abandonment (Blumner 1998). Little is documented about how HEWS is implemented and then used to create change by collaborative efforts of community and local government groups. These may be major causes of funding problems of NEWS and NKLA systems in both Chicago and Los Angeles. Other possible causes could include a lack of gauging the effectiveness of NEWS to detect problem properties (Blumner 1998). If groups cannot effectively find and demonstrate ways to use housing early warning systems, then they are unlikely that either government or potential funders will take them seriously.

Another HEWS began in Los Angeles called Neighborhood Knowledge Los Angeles (NKLA), set after the model in Chicago. Both models emphasized indicators that had a negative effect on housing and that would show the patterns of disinvestment. The HEWS development in Los Angeles also increased the efficiency of city departments to accumulate records and instigated reform in some city departments. For example, code violations department had poorly kept records and often the violation tags were complaint motivated. The code violations department was therefore reformed so more consistent records would be available for HEWS.

Funding and site location for NKLA began at UCLA, but was later transferred to a community based non-profit and then back to the university (Krouk et. al. 1998). This may have happened because of a valuable relationship between the resources of students and EWS research (Millinis 1999).

A housing early warning system model was also tested in Minneapolis' Central neighborhood. The site was picked, because of the high housing abandonment rates in Central. Lori Mardock is studying indicator's predictability of housing abandonment in Central and Michelle Millinis is researching the processes of city departments condemning and vacating properties in Minneapolis. Their research is new and should be followed for future recommendations for HEWS development in St. Paul (see Mardock 1998 and Millinis 1999).

A problem that all of the HEWS surveyed faced was the lack of community participation with the system.. With the factory EWS alliances and collaborations were needed to form so groups could challenge the policies and ownership of the plant. The capacity for housing groups to actively challenge policies, ownership, and residents is dependent upon how well concerned groups can work together. Without these understandings it is unlikely that HEWS evolve into a more accurately gauged and effectively used system, where groups can find innovative ways to solve housing problems. HEWS implementations need to account for the organizational capabilities of groups.

In Chicago, NEWS lacks the interactivity of community groups generating and verifying the data and their system. Community housing groups will need to demonstrate the effectiveness of HEWS by measuring how well these indicators hit sites that are distressed. When community-housing groups become aware of trouble signals, they

need to have the resources to respond (Blumner 1998). They should also track how they have used the system and demonstrate ways they are able to target areas with HEWS data. For example, a community could generate a map using Geographic Information System (GIS) and show how housing problems existed before targeting aid and after grants were dispersed in an area.

Community groups participation in HEWS is necessary, because they have the ability to understand the context of housing situations in their area (see Elwood and Leitner 1998). For example, Beth Hyser of H-MARC knows by driving though the neighborhood to different sites if a property is vacant or not.

Community groups can shape HEWS through direct knowledge of the neighborhood. If crime is present or if a landlord is absent in dealing with a problem, residents often know. Citizen participation can help define housing distresses on a case by case basis. A community can assess why a housing distress occurs within the household, because often neighbors know the circumstances of residents at distressed properties. Community groups can use this existing knowledge to help make recommendations about actions to stop housing distress.

In Hamline-Midway, H-MARC and the Hamline Midway Coalition (HMC) have undertaken the role of tracking distressed properties in their neighborhood. These groups have conducted research on housing and related issues and have gathered inputs from residents and amongst themselves to assess problems in the community. If HEWS is to be implemented in St. Paul, it would be important to include the participation of these groups.

H-MARC has effectively collaborated with the Hamline Midway Coalition (HMC), the residents in the area and recipients of their loan and grant products. Beth Hyser and Dave Alstead have learned how the city structures housing programs and policies, while also listening to neighbors concerns For example, H-MARC plans to track phone calls and messages and the nature of the call to determine how well they work with others. They also are updated regularly through meetings with St, Paul Planning and Economic Development (PED) staff to learn about new housing policies, programs, and funding.

H-MARC often communicates government housing policy and grants to HMC so they can better plan around housing issues. H-MARC also communicates openly the needs for policy changes or policy recommendations to city council members or staff at PED. H-MARC's and HMC's working knowledge of the area housing could help define HEWS indicators. For example, Beth Hyser often drives by properties when she makes trips to H-MARC housing developments. During this drive time she will often notice if a property has become vacant or if a vacant has become occupied by a resident.

H- MARC has experience in conducting research about housing in Hamline Midway. They have created housing conditions maps of the area and have sponsored a community information clearinghouse where they share their information and research with community members. H-MARC's potential information gathering of HEWS should be shared with HMC. HMC often deals with social issues that are related with the housing indicators. For instance, HMC tracks incidents of vandalism then reports these findings to H-MARC, because this social issue affects the physical structure of the home. Cooperation with HMC is very important, because HMC plays a role in aiding the social networks (e.g. block groups) in Hamline Midway. HMC can help solve problems or minimize distresses by

actively organizing residents or gathering and sharing community information to help enable residents to solve community problems.

H-MARC is a possible candidate for HEWS use. However, questions about the HEWS indicators showing up in Hamline Midway, the ability to access data and to demonstrate results from the system need to be assessed to determine if HEWS is feasible for H-MARC. The capability to implement and update HEWS will also be necessary requirements if HEWS will be useful for H-MARC.

IV. Integrated Data System in St. Paul and Ramsey County

The future development of a integrated data system in the City of St. Paul and Ramsey County must be considered when determining the feasibility for HEWS at H-MARC and in the Hamline Midway neighborhood. Both city and county departments are in the process of creating such a system. A data integrated system takes information and integrates it into a useable format for computer programs. It allows a user to pull data from various sources to cross examine information (Millinis 1999).

The city and county are integrating their data systems, because it allows staff from various departments to save time collecting and accessing data (see Mardock 1998). It also saves money and resources, improves the organizational capabilities of departments and makes it easier to update data regularly (Kinzy 1998).

The move towards an integrated system is important for community organizations, because it could also help them with organization of information, research and planning in their own neighborhoods. This data could potentially be used to detect changing trends, critique public policies and to propose plans or solutions to problems in their own neighborhoods.

The access to data by community groups has recently become easier. The Joint Powers Act, which states that Ramsey County and City of St. Paul should share their data only amongst their departments, has recently come to include neighborhood planning organizations and CDC's. This move benefits the city and county, because community groups often increase the stability of neighborhoods. For example, CDC housing investments bring tax dollars to the city and county and costs the government less in public service costs (Goetz 1997).

Already, departments like Public Health, Water Utility and License and Inspections (LIEP) are creating or reformatting their databases so that their records are more organized and possible to analyze. LIEP is currently developing a partially integrated city-level database that provides a link to Public Works, Water, Fire and Planning and Economic Development (Kellner 1997). The Inspections Department in Cincinnati also began this process that eventually led to a citywide data integrated system (Kinzy 1998).

As government databases develop, the potential for HEWS to be implemented becomes greater. It is likely the predictive qualities of HEWS would increase with more regularly updated data that is easier to access from an integrated system.

However, community groups would have to put this information to use and demonstrate the results if a data integrated system would be created in a way that is flexible for them. For instance, NEWS in Chicago was developed as a one-stop-shop, where a user from the community could query a particular address, but could not

analyze their entire neighborhood. If a community organization would like to analyze government data their neighborhood, it would be important to incorporate their early inputs into the integrated system so the system better accommodates their needs. This is because it is less costly to design a data integrated system around the needs of the users than to alter the system after it has been fully developed (Blumner 1998).

The development of an integrated system increases the need for community organizations to explore data uses, such as the implementation and use of HEWS. This makes pursuing HEWS a feasible investment.

V. Hamline Midway HEWS Indicators

A. Introduction.

In order to assess the feasibility of HEWS in Hamline Midway it will be necessary to see if the data is accessible, if indicators for housing distress show up in Hamline Midway and if there are preventative actions H-MARC and other groups can make to help alleviate the distress.

Descriptions of how the indicators cause housing distress will be included in this section. Housing distress will be defined as activities or conditions that threaten existing housing stock, the investment of a resident's property and the capability of a resident to continue to live at the property.

The indicators chosen reflect the experiences of various people who are concerned about housing distresses. They include government staff, non-profit community groups, and residents of Hamline Midway. I will include the insights of various persons concerned with housing in Hamline Midway. Determinations about the indicators' prevalence in Hamline Midway and statistical summary of the indicators will also be included. With the indicators I will analyze the weights they should bear, the limitations of the data used, and the potential users of the indicator information.

Because the measurements are of deficiencies in the neighborhood, I will include potential solutions to the problems indicated by the measurement (see Sawicki and Flynn 1996). I will also recommend certain changes for the data used for HEWS indicators so that they may become more accessible or that new "preventative" indicators can be included in HEWS.

It should be noted this is not a definite set of indicators. New ones may emerge when data becomes accessible. Also, changes in the economy or goals of the community may change the indicators or their assigned weights. However, some sets of data need to be compared over time in order for patterns of change to be revealed. For example, it would be good to see the changes in vacancies over time to see if there are consistencies in geographic or characteristic patterns. Therefore, there is also a need for continuity for some of the indicators to examine changes over time.

This model was determined by the availability of existing data and reflects a potential model that could be upgraded or modified over time. Tracking reports and further research should also help define the indicators used in Hamline Midway.

Potential Indicators Used for Hamline Midway HEWS:

1) Housing Conditions
2) Property Value Decrease
3) Water Shutoffs
4) Mortgage and Tax Distress
5) Crimes by Street Segment
6) Proximity to Vacant Unit and Land
7) Ownership Vicinity
8) Potential Contract for Deeds
9) Institutional Owned Residential Property.

1) Housing Conditions.

a) Description. Housing Conditions are the exterior parts of a structure that include its foundation, stairs, paint, wood, windows, and roof. A survey of the housing conditions in Hamline Midway was completed by a college student in 1996 for H-MARC. Poor Building Conditions lead to housing decline, because they affect the value of the home negatively. If a homeowner can afford to maintain the house's roof, foundation, and outside walls, then the homeowner can expect to have his or her home valued higher than it would be if the home was not maintained at all. This includes subtracting the cost for maintenance. Poor housing conditions are a sign of fiscal distress at a property if the owner cannot keep the housing condition in good shape.

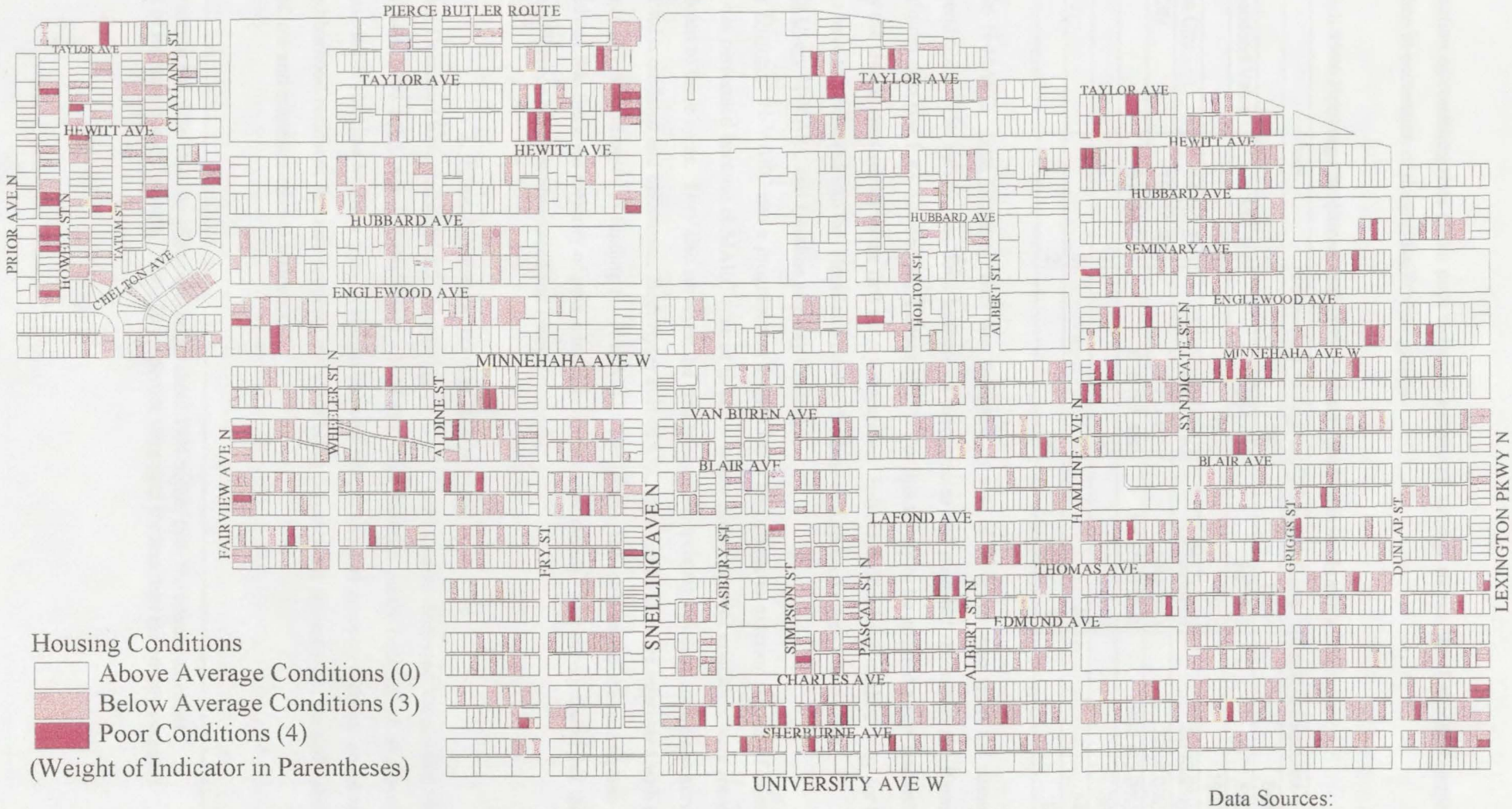
Poor building conditions can affect the home and adjacent homes' value, because bad housing conditions affect the desire for residents, realtors, or prospective buyers to sell or live at the property. When housing becomes increasingly becomes in poor condition, housing values can fall in the entire neighborhood. As property values go down, investment in home maintenance and renovation go down because owners feel they are less likely to recover their investment. This investment decline also leads to housing distress.

If housing values begin to fall, other residents are more likely to sell their homes because of the home's declining worth. When many residents leave in a short period of time, many new neighbors move in who are less likely to know each other and the neighborhood. In a neighborhood where many residents do not know each other, the neighbors may be less accountable for each other and the community. This is a form of social distress that accompanies housing distress.

b) Spatial Patterns and Statistics. Houses in below average to poor condition are dispersed in all areas throughout Hamline Midway. No one area in Hamline Midway has all good or bad conditioned homes. There is a relationship of housing conditions and property value, year structure was built, taxpayer and homeowner vicinity, and the number of units in a parcel (see fig. 1). The property value numbers come from 1997 Ramsey County assessments. It should be noted that the actual value often differs from the county assessed value.[9]

As conditions rise from Poor to Excellent, county property values increase 25.1%. Rates of ownership outside of St. Paul decline from 16.9% for poor conditions to 4% for excellent condition property. You will notice

1996 Hamline Midway Neighborhood Housing Conditions



Housing Conditions
- Above Average Conditions (0)
- Below Average Conditions (3)
- Poor Conditions (4)

(Weight of Indicator in Parentheses)

Design/Database Creation/Analysis: Eric Myott 12/98
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Data Sources:
1997 St. Paul PED
1996 H-MARC Housing Survey

that as each classification of condition rises (from poor to below average to average to excellent) all other property statistics rise or decline in succession of these classification groups.

Figure 1. 1996 Housing Conditions and 1997 Property Statistics in Hamline Midway:

	Poor	Below Avg. to Avg.	Average to Good	Good to Excellent
Count	112	707	1,584	946
Mean County Assessed Value	$57,165	$64,491	$67,303	$71,530
Mean Year Built	1907	1915	1918	1922
Taxpayer Outside City	14 (12.5%)	79 (11.7%)	70(4.4%)	30 (3.2%)
Owner Outside City	19 (16.9%)	78 (11.0%)	79(5.0%)	38 (4.0%)
Single Units	93 (83.0%)	618 (87.4%)	1,447(91.3%)	880 (93.0%)
2 to 3 Units	17	60	89	36
4 plus units	0	10	26	14
Other unit	2	10	13	9

c) Data Source: 1996 H-MARC. Data Concerns: data was compiled by a U of M intern who spent the summer surveying housing conditions. The survey was done because of inaccuracies and outdated records in the Ramsey County housing conditions data (see P.83, Elwood and Leitner 1998). For this survey to be updated a new researcher would have to survey the area as consistently as the first survey researcher. H-MARC does have methodology for the survey. It would also have to be entered into the Hamline Midway database and updated every 2 to 4 years.

Potential HEWS Data Users: H-MARC and Hamline Midway Coalition.

d) Potential to Solve Distress. H-MARC has a program that targets loans and grants to exterior repairs of homes. The original survey was performed because H-MARC wanted to know where homes in poor condition were located so they could target loans to these areas. They also surveyed the area because the existing building conditions survey from the City of St. Paul is outdated and inaccurate. Beth Hyser at H-MARC says that funders are impressed with the map and in an indirect way it contributes to funding for H-MARC. The survey also challenged the assumption by many in Hamline Midway that the great majority of poor condition homes were rentals. The survey found that there was not so much of a difference between homestead and rental properties.

2. Property Value Decrease of 10% or More.

a) Description. Value Decreases were determined by comparing 1993 with 1997 County Assessed Values and 1997 County Assessments with 1997 MLS Actual Sales Prices. H-MARC was founded partly because of an extreme property value decrease in the Hamline Midway area. It should be noted that an extreme property increase could also negatively affect neighborhood residents, because property increases bring property tax amounts up, possibly above the financial means of low and moderate-income residents.

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[9] 1997 actual sales prices in Hamline Midway were on average about 18% higher than the county assessed. However, the percent of increase could fluctuate. Also, 20 properties were sold for less than the county assessed value in 1997.

Decreases in value can lead to disinvestment in housing. If an owner sees neighboring houses decline in value, the owner may likely leave the area rather than loose on his or her investment into the home. Because the average property values are increasing, a property with a decrease may point to other problems with the properties in an area (Raucher 1995). These problems could include tax or mortgage delinquencies, code violations, or structural problems.

I picked decreases over significant increases because I could not substantiate that value increases contributed to housing distress in Hamline Midway in 1997. For example, of the 1423 properties that saw increases of 15% or more, there were only 38 water shutoffs. On the other hand the 1984 properties that had less than a 15% increase had 87 water shutoffs.

b) Spatial Patterns and Statistics. Decreases of 10% or more in property values were dispersed across the Hamline Midway area. However, there were no decreases of this type 3 blocks east or west and one block south of Hamline University. This corresponds with increased property values in that area. Researcher Claudia Fonkert of Macalester found that property values and investments increased within .2 miles of all colleges and universities in St. Paul.

c) Data Source: 1997 MLS, 1993 and 1997 Ramsey County Property Records. Data Concerns: Property records can be outdated by two months. Received data for free through PED, but it costs $45 per hour and $1.25 a disk from County Property Records and Revenue Dept. It took 2 weeks to receive the data ordered for 1993. Received MLS information from Hamline Midway realtor. Needed to manually input MLS sales information into database.

Potential HEWS Data Users: St. Paul PED, Ramsey County Property Records and Revenue Dept., Multiple Listing Service, IRIS, H-MARC and Hamline Midway Coalition (HMC)

d) Potential to Solve Distress. The rehabilitation loans and grants from H-MARC are provided in part to stabilize Hamline Midway property values. H-MARC also helps alleviate the distress of property value decreases by providing an annual information clearinghouse to the community and by acting as a resource for solving housing questions and providing referrals. These resources available to the community allow neighborhood residents to figure out how to keep their property values from declining.

Declining property values are also being caused by crime, poor schools, a lack of community cohesion, and by the perceptions of its residents, realtors, and media (Raucher 1995). Local or regional economic policy and fluctuations in the housing market can also cause declining property values. It is important to note this when a neighborhood as a whole experiences value decline or major increases as Hamline Midway has in the last ten years. However, a community that is organized and is attempting to stabilize property values during fluctuations in housing prices is better off than a community that does little to collaboratively to stabilize housing prices or that issues no comprehensive complaint.

Also, it should not be overlooked that large value increases can also make it difficult for residents in the community whose incomes have not kept pace with their property tax payments and mortgages. Affordable housing is a major problem in the Twin Cities and it should be a major concern for any community-housing group in St. Paul. HEWS fails when it acts as a weed-and-seed operation that does not consider that improving housing values

can root residents out of their houses and cause the final stage of housing distress: resident removal from their housing unit.

3. Water Shutoffs.

a) Description. Water shutoffs and shutoff notices often are strong indicators of fiscal distress at a household. Water is a basic need and when people are not paying their water bill they are likely having difficulty paying for other things, including investment into the homes infrastructure. If the mortgage is still being paid it may be the next thing the resident will be unable to pay.

Water is shut off when either a payment isn't made after the 45-day notice or if there are code violations at the home for health reasons. Water can be shutoff many times at a household in a year. In Hamline Midway there are households whose water has been shutoff over five times in 1997. These households carry a significant indicator weight for distress, because of the likelihood that a foreclosure may ensue if the financial distress continues in the household.

Water arrears have also been used in Los Angeles, Chicago, and Minneapolis HEWS models, because of their predictability of financial distress associated with housing properties. Water notices may occur frequently, because they are the "path of least resistance" for financially struggling homeowners (Krouk 1998). For instance, homeowners could put off their water bill until the 45-days are about up on their notice without penalty.

b) Spatial Patterns and Statistics. In 1997, 89 properties experienced a water shutoff in the Hamline Midway neighborhood. Of those 89, 24 (or 27%) experienced a shutoff more than once. One particular property was shutoff 6 times. Forty-five day notices occur often in Hamline Midway. Cliff Nash of St. Paul Water Utility sampled two meter routes that totaled 835 of the 3,642 addresses in Hamline Midway. Of the 835 addresses 6% were on the 45-day tag list. Though property values are on the rise in Hamline Midway, resident's ability to keep up with payments may prove to be difficult. Although water shutoffs are dispersed across the Hamline Midway neighborhood, 41 (or 46%) were located south of Thomas Avenue. The three properties that experienced 4 or more shutoffs were also located in this area south of Thomas.

c) Data Source: 1997 St. Paul Water Utility. Data Concerns: 45-day shutoff notices would be more useful as a "preventative" indicator for distress. The Water Utility was willing to provide that information in the future. There are some mismatched records between addresses and account numbers. These are planned to be fixed in 1999. The St. Paul Water Utility would be responsible for updating records monthly. They will have to revise their data systems so they can join with HEWS data system. Water Utility could contact License Inspection and Environmental Protection (LIEP) about the code id that could make their records easier to link with others. There needs to be contact between H-MARC and Water Utility about the use of data and how their plans to solve water problems in homes is working. H-MARC should track any programs or mailings done through the use of water utility data. Water utility should see the result of H-MARC's work by numbers, graphs, or maps. It is potential that water utility may support H-MARC to find ways to fund residents who legitimately cannot pay their water bills.

Potential HEWS Data Users: St. Paul Water Utility and H-MARC, possibly HMC.

d) Potential to Solve Distress. One of the most interested group in HEWS was the St. Paul Water Utility. The Water Utility researchers Barb Woosley and Cliff Nash would be willing to revise their data system if HEWS was actually implemented. It would then be easy to include 45-day shutoff notices as an indicator. The release of Water Utility data will help define fiscal problems at properties that have the propensity to lead to housing distress.

Concerns about privacy were expressed by the public relations officer at the utility, Helga Kessler. She was concerned that this data could be used in a wrong way and stated the need for understanding between the utility and H-MARC in how the indicator would be used in HEWS.

This is an important note about understandings. If HEWS was implemented groups would have to communicate their intentions about how they will use the system. They will have to gauge and track how it is being used and what problems the groups are solving to assess how the data is being used. Beth Hyser at H-MARC supports the idea that a dialogue must take place and a set of terms must be agreed upon if H-MARC and other groups are going to work together effectively to create changes and solve problems.

Helga Kessler actually presented an idea that would help both groups solve a problem that either one alone would not be able to solve. She mentioned that a good indicator would be large increases in water use at an address. Research at the Water Utility has found that faulty pipes or toilet components cost the city hundreds of thousands of dollars a year. She mentioned that if this indicator showed up at addresses, the Water Utility is unable to notify the customer except in small writing on the bill sent in the mail. The Water Utility currently cannot find the budget for its own mailings for extreme water increases. What Helga proposes is that the Water Utility could give this information to H-MARC free every month if H-MARC could send a mailer to these addresses. The utility could also supply a tablet that residents could put in their toilets to see if the rubber mechanism needs to be changed. Often this is the problem when water use increases a lot at an address. Replacing the rubber mechanism costs little and can be done by the resident.

A simple problem that costs homeowners lots of money overall could be solved between these groups that could not be addressed by either one alone. Solutions such as these, though they seem small, can add up significantly to help alleviate distresses in homes. Such ideas should be sought and tracked with HEWS so that its effectiveness can be supported by demonstration.

4. Mortgage and Tax Distress

a) Description. Mortgage and Tax Distress include Mortgage Foreclosures and Tax Forfeitures. It would be more useful for this indicator to include delinquency, however I was unable to obtain delinquent payments on taxes or mortgages. This should be pursued in the future. Currently information about tax delinquencies can be accessed by phone. However, this limits information to particular properties instead of an entire neighborhood.

Mortgage foreclosures and tax forfeitures occur when the homeowner quits paying the mortgage or taxes for the house and the bank or the government takes over the ownership title of the home. In these cases the person who has lost the title typically has had financial difficulties from late fees or potential payments in an attempt to retrieve the title. Residents in mortgage or tax forfeiture would be unlikely to spend money on the upkeep of the conditions of the home, because of these mounting payments. Real estate agent, Lynn Kadlubowski mentions that a

person going through a foreclosure is likely to have mounting costs for paying off fees to the bank, government, and often attorneys. This stretches a resident's budget further and puts investments in the house structure further from the top of the resident's priority list. Without these investments the house continues to decline. It would be more useful in the future to use tax and mortgage delinquencies so that these indicators could catch distress earlier in the disinvestment process.

b) Spatial Patterns and Statistics. There are 17 properties that are mortgage foreclosed and 2 properties that are in tax forfeiture in Hamline Midway. There are no distressed properties of these types north of Minnehaha and east of Snelling. The largest concentration of foreclosed properties is in an eight-block area between Simpson and Albert (east to west) and Thomas and University (north to south).

The small sampling of these indicators makes it difficult to statistically analyze them with other HEWS indicators. It would be better for analysis purposes to use indicators for delinquency for taxes and mortgages in the future. One goal of HEWS is that a indicator will show up before a home gets to the foreclosure stage, where often it is too costly to stop the problem.

c) Data Sources: 1997 PED and 1997 County Property Records. Data Concerns: Mortgage Foreclosures were found by finding names of banks as owner or taxpayer. This entailed sorting through over 3000 records, which took time. Received data for free through PED, but it costs $45 per hour and $1.25 a disk from County Property Records and Revenue Dept. This data is usually two months behind when it is released. Tax Forfeitures were gathered from a list at PED. These also had to be manually entered.

Potential Data Users: PED, County Property Records and Revenue Dept., IRIS, H-MARC and HMC.

d) Potential to Solve Distress. It is difficult to solve mortgage foreclosures because the costs are often already too high. If delinquencies were used as an indicator, H-MARC may be able to assess the delinquency and provide funding or referrals to other agencies to help solve the distress. In Los Angeles, there is a trend in disivestment that starts with mortgage delinquencies, even before shutoff notices (Krouk 1998).

To help solve mortgage problems, H-MARC could refer potential first time home buyers to programs that help educate them about buying a home or if it is feasible for them to do so. (e.g. Northside NHS program for first time home buyers). These referrals could have unforeseen benefits in stopping some mortgage delinquencies and foreclosures.

Recently, PED had a meeting with CDC members and mentioned that there were sales of tax forfeiture property for $1.[10] If PED can continue to update housing groups on such programs with the indicators the housing groups receive, then it can substantially aid in developing HEWS strategies to confront housing distress by rehabilitating these homes and selling them. Currently information about HUD (FHIA) foreclosures are available online at www.hud.gov/.

5. Crime by Street Segment.

a) Description. The crime indicator comes from category 1 crimes (in residential areas) that include all crime reports except domestic violence, sex crimes, and drug offenses (from 1/98 to 10/98). Because crime affects a whole block, the crime weight was attached to both block sides of the street where the crimes occurred.

Both Claire Press, a Hamline Midway block group member, and Lt. Kit Hoskin, from the St. Paul Police Department acknowledge that crime plays a major role in creating housing distress and both found a strong relationship between absentee ownership and crime itself. Interestingly, when police raid a drug house, code violations officers follow because they often can tack on violations that make the suspected drug dealers unable to re-enter the raided address.

Crime leads to housing distress, because crime threatens the residents and their property. If residents fear that their neighborhood is becoming crime ridden or they experience crime there is an increasing likelihood that they will sell their properties. Realtors are also aware that incidents of crime in a neighborhood adversely affects the likelihood that others will desire to live in the area. If the neighborhood is not desired by others and people are selling their homes because of criminal activities, housing values will decline and other neighbors will consider selling their homes rather than losing more on their investment in their homes. Hence, existing neighbors will be less likely to invest as property values go down because they feel they are less likely to recover their investment.

Drug activity should also be collected for a future HEWS indicator. It should also assigned to both sides of the street where the crime occurred, because it affects both sides of the block. Drug arrests should also be given more weight than property crime, because of the continual presence of activity at a drug house and the strong likelihood that other crimes would be committed there. Drug activity leads to housing decline for the same reason as other crimes.

b) Spatial Patterns and Statistics. In Hamline Midway there were a total of 853 category 1 crimes of which 547 were located in residential areas (1/98 to 10/98). The highest crime concentrations were in the commercial areas along University and Snelling Avenues. In comparing a sample of 357 crimes I was able to find trends in crime with homesteads and non-homesteads. Non-homesteads in general had the lowest averages of crime per unit, however single-family non-homesteads had the highest. I was also able to find crime averages higher in contract for deeds, in houses with water shutoffs and when the owner of the property resides outside the metro. Interestingly, owners that lived outside the city, but within the metro area had the lowest crime averages per unit (See figure 2).c) Data Sources: 10/1997-10/1998 St. Paul Police Research. Data Concerns: Though data is most up to date and accurate, the data table received only issued addresses where crimes occurred. These do not attach to parcel id for database purposes. I assigned each block side crime weight in accordance with the crime statistics. For data purposes it would be useful for St. Paul Police to contact the License Inspection and Environmental Protection Department (LIEP) about receiving the code id that will make it possible to link their data with other data at the city

[10] In 1998, Housing and Redevelopment Authority initiated the process to acquire properties for $1 under stat. 282.01, subd. 1b.

and county. St. Paul Police will be responsible for monthly updates of annual crime report for HEWS. There are also issues of privacy with the use of crime data.

Potential HEWS Data Users: St. Paul Police Department, H-MARC, and Hamline Midway Coalition. Residents, tenants and block groups input information into situations. Public Health Code Violations could use for information about the relationship of crime to health and building violations. St. Paul Fire Department could use for information about arson or violations at properties with 4 or more units.

Figure 2: Category 1 Crimes And Other Housing Indicators

Housing Type	Properties	Units	Crimes	Crime % per unit
Homestead	3208	3208	271	8.4
Non-Homestead	340	1088	80	7.3
Single Family Non-Homestead	140	140	21	15.0
Non-Contract for Deed	3330	4165	339	8.1
Contract for Deed	99	131	18	13.7
Water Shutoff at Property	87	107	14	13.1
Other Properties	3348	4194	337	8.0
Owner in City	3209	3604	302	8.4
Owner Outside City/ Inside Metro	160	569	39	6.8
Owner Outside Metro	62	103	16	15.3
Near Vacant (1-4 score)	500	566	59	10.4
Other Properties	3012	3814	299	7.8

d) Potential Solutions for Distress. St. Paul Police has the responsibility of working with the community to prevent crime. In ways they are already working with this indicator when they attend HMC community meetings or Hamline Midway block group meetings. St. Paul Police informs the community of problems occurring as the community informs police about their understandings of shady activities. For example, the police can inform residents how to protect their property from theft and residents can inform the police about the context of their understanding of suspicious activities. HEWS would be valuable to St. Paul Police, because they could see how other indicators may relate to incidents of crime or drug activity. Subsequently, sharing the crime data with H-MARC or HMC is important so the community may start to get neighbors to begin a dialogue with one another over when crimes are occurring in their area. Often problems are solved when residents simply begin to talk to one another. Privacy is an issue and residents should not have access to the data about the specific crime or address.

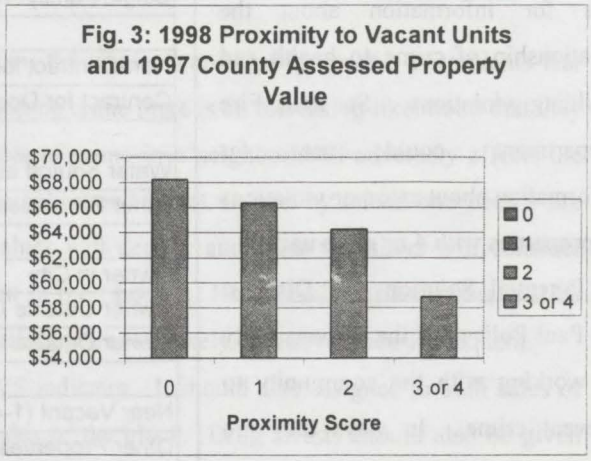
6. Proximity to Vacant Units or Land.

a) Description. Vacant properties or land on a block affect the perceptions of both the neighbors and the realtors in the neighborhood. Realtors will perceive that a block is going down hill when a vacant building or lot is present. Subsequently, this could decrease the values of the neighboring homes. Neighbors, in turn, may not invest in their own homes because their properties are decreasing in value. Financially it may be more feasible to sell than to stay and invest in the property. When a neighborhood faces decline this cycle of disinvestment often occurs.

Growing numbers of vacant units spur flight from the community, similar to the response of crime and housing conditions. When a neighborhood experiences flight it becomes destabilized both financially and socially.

Because of the susceptibility of residents to quit investing in their properties or for residents to move from their properties, Proximity to Vacants is an indicator for housing distress. Vacant properties also add to the erosion of the city's property tax base, and increase costs associated with maintenance and demolition (Mardock 1998).

b) Spatial Patterns and Statistics. Vacant units and land are spread out in Hamline Midway with the exception of a 38 square block area within Hewitt to the north and Thomas to the south and Fairview to the West and Syndicate to the east. This 38 square block area has no vacant units. One block, on the southeast corner of Minnehaha and Fairview, has 3 vacant units. I gave a score of one to units in proximity of 5 – 8 properties of a vacant and a score of two if a property was adjacent to a vacant. I added these weights to each property in vicinity of a vacant unit to the final proximity score (see figure 6). Values of properties near vacant units typically fall as they become near these properties. However, these property values are derived from 1997 Ramsey County assessments and subsequently the actual market price usually is higher (although it is sometimes lower).



c) Data Sources: 1997 PED and 1998 Public Health, Code Violations Department. Data Concerns: PED records were outdated and a windshield survey found that some were no longer vacant and other new sites were vacant. This was also true of a 1998 Code Violations vacancy list, which had to be entered manually into the Hamline Midway database.

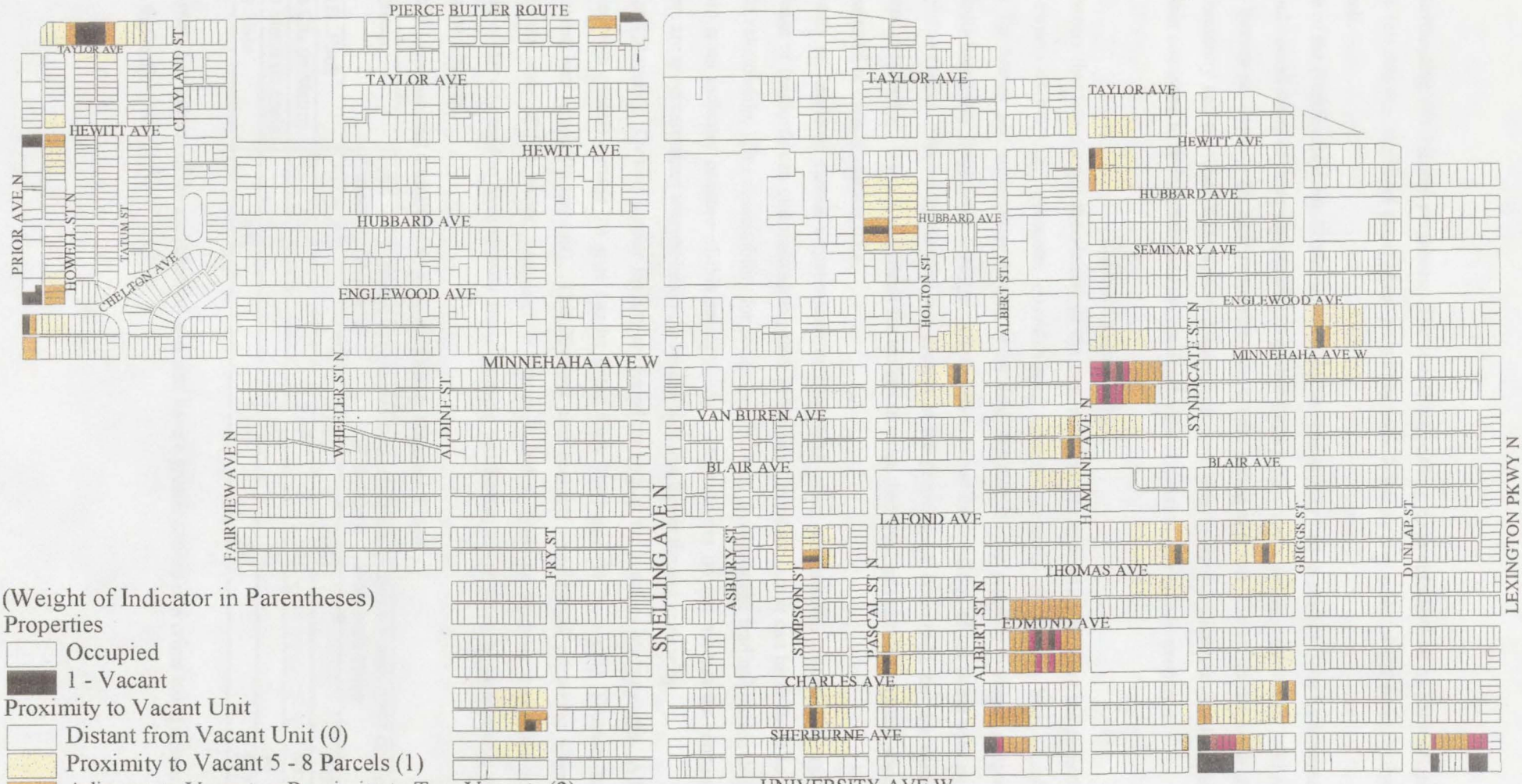
Potential Data Users: St. Paul PED, Ramsey Public Health Code Violations Department, H-MARC, and HMC. Contextual inputs and verification about vacant properties by block groups and residents.

d) Potential to Solve Distress: H-MARC attempts to alleviate this distress by committing funding to direct development at vacant properties. Hamline Midway Area Rehabilitation Corporation (H-MARC) receives a list of vacant properties in their districts monthly from Code Enforcement. This helps H-MARC keep tabs on potential rehab or direct development projects for those homes so that the housing distress of vacant properties can be eliminated.

Though Code Enforcement lacks a database for sharing information about notices or tags, it expects to have a system in the next year or so. These upgrades could be very useful for HEWS, because Code Enforcement could include indicators for violations that may reveal problems at a property before it becomes vacant. If a building has three or more units the fire department is responsible for violation citations. If code violations become available it would be important to contact the fire department for the possibility of their collaboration in HEWS. The lack of availability in St. Paul and Minneapolis of code violations data may make it more difficult to predict vacancy. Code Violations are used in both Chicago NEWS and NKLA in Los Angeles.

Cooperation between community groups and government departments may keep housing from being vacated by residents. An example of this cooperation in Hamline Midway was a feud that developed between a

1998 Hamline Midway Neighborhood
Proximities to Vacant Land and Properties



(Weight of Indicator in Parentheses)

Properties

- Occupied
- 1 - Vacant

Proximity to Vacant Unit

- Distant from Vacant Unit (0)
- Proximity to Vacant 5 - 8 Parcels (1)
- Adjacent to Vacant or Proximity to Two Vacants (2)
- Adjacent to and in Proximity of Vacants (3)
- Adjacent to Two Vacants (4)

Design/ Windshield Survey/Analysis: Eric Myott 12/98
Contact: mylloe@hotmail.com

Data Sources:
1997 St. Paul PED
1998 Public Health Code Violations

couple and their surrounding low-income neighbors. The couple was calling code enforcement on their neighbors, because the couple felt that the neighbors poorly kept properties were lowering the value of the property that the couple wanted to sell.

Cathy Lue of the Hamline Midway Coalition noted that the community had to contact Code Enforcement to explain that this feud caused many of these complaints. Together Code Enforcement and the community worked out a plan for the low-income residents to fix their properties over a time period that was feasible to them. With this cooperation the community and the Code Enforcement Department were able to remove distresses on low-income residents. The houses continued to be inhabited and the residents were allowed to stay at their properties.

7. Ownership Vicinity

a) Description: Owners that live outside the vicinity of the city, metropolitan area and state have the potential to become absentee owners of property. Absentee owned homes have the potential of creating both social and financial problems for homes and surrounding homes in an area, because of the property owners' geographic distance from the units they own. Sometimes absentee owners can overlook the condition of the home with an "out of sight, out of mind" attitude. More often owners not present at the property are concerned, but are unable to realize that a problem is occurring. Also, it is difficult for tenants to voice their concerns about a problem when the owner resides across town or even in another state.

When tenants or landlords cannot communicate or keep each other accountable, tenants can treat the property as they please or landlords can quit maintaining their properties. In either case it can be difficult to solve problems within this relationship. This susceptibility for social and financial problems can lead to housing distress. Absentee Ownership is an indicator because of this susceptibility. These homes do not necessarily constitute a problem. Often there are good caretakers who maintain the homes well and live at the site or near by.

b) Spatial Patterns and Statistics: Owners outside the city are found throughout the Hamline Midway area. A large number of properties with owners outside the state can be found from Sherburne (to the south), Thomas (to the north), Fry (to the west) and Albert (to the east). This 20-block area contains 15 of the 62 properties where the owner lives outside the state of Minnesota. As seen in figures 4 and 5, Hamline Midway properties whose ownership is outside of the city tend to have slightly worse housing conditions, lower property assessments and a greater chance for water shutoffs.

Figure 4: Ownership Location and Condition and Single Family Housing Value.

Property Ownership	Total Properties	Condition (1-Poor to 5-Excellent)	Single-Family Properties	Single-Family 1997 County Assessed Value
Owner in City (St. Paul)	3177	3.05	2996	$65,988
Owner Outside City (in Metro)	156	2.69	85	$61,844
Owner Outside Metro (in State)	21	2.95	11	$61,064
Owner Outside State	41	2.56	32	$57,384

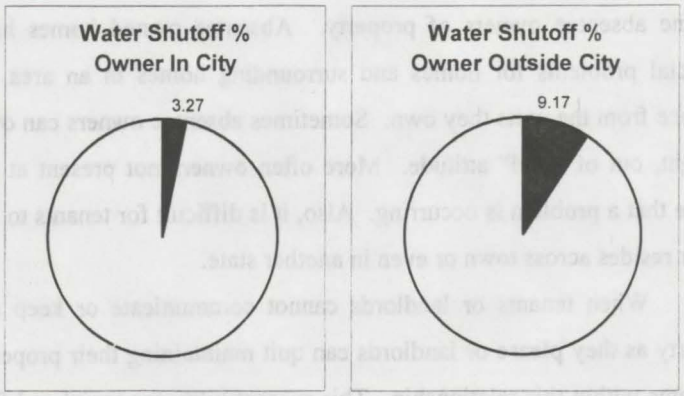
Properties whose owners live outside of the metropolitan area also have a greater chance of a crime being committed at that address (See figure 2).

c) Data Source: 1997 PED, 1993 and 1997 Ramsey County Property Records. Data Concerns: Owners outside city had to sorted through over 3000 owner addresses and compared with the actual address of the property. Property records can be outdated by two months. Received data for free through PED, but it costs about $20 for each attribute alone (e.g. ownership name) from County Property Records and Revenue Dept.

Potential Data Users: St. Paul PED, Ramsey County Property Records and Revenue Dept., Multiple Listing Service, IRIS, H-MARC and HMC. Inputs from block groups, residents, tenants and owners about owner-tenant disputes. Inputs from St. Paul Police when absentee ownership is associated with crime

d) Potential to Solve Distress: Because not all owners living outside the area are "absentee", the distress of irresponsible landlords could be further defined by community members and tenants. The collaboration between H-MARC and HMC in tracking the owners of problem properties could benefit the assessment of governmental departments such as the Police or Code Violations when deciding to pressure or accommodate owners of properties. HMC's attempt to reach out for tenant inputs would add to the understanding of problems associated with absentee landowners. Community mediation could be possible with the addition of communication with landowner organizations.

Figure 5: Water Shuttoffs and Ownership Vicinity



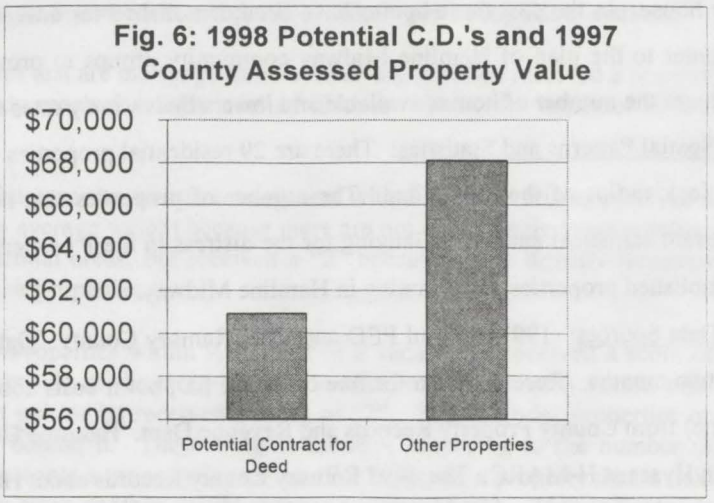
8. Potential Contracts for Deed

a) Description: Contracts for deed (CDs) is an arrangement when the owner acts as a bank when selling the home to new ownership. In these kinds of contracts it is legally difficult for the original owner to make the resident responsible for the conditions of the home. It is also difficult for the resident (who basically rents to own) to challenge the owner in court about the contract. For example, the original owner may write a contract that states a payment must be made on so and so day. If the resident does not pay (even if it his or her last payment), the owner can legally reclaim the contract from the resident and keep all previous payments. Beth Hyser at H-MARC notes that more often than not, contract for deeds fall apart with the owner and resident disputing the contract. This leads to the lack of concern and investment by the tenant and owner in the house's condition, because contract for deeds are a risky financial investment. Although contracts for deed can and do work out at times, the propensity for these contracts to turn into a lack of investment into the home, as well as a social distress, make them a necessary indicator for housing distress.

b) Spatial Patterns and Statistics: Potential Contracts for Deed are dispersed throughout the entire Hamline Midway area. As seen on figure 6, potential CDs typically have lower property values. They also have a lower value increase (12.2%) than non-CDs (14.22%) and have higher crime rates than non-CDs (see figure 2). Contract for

Deed properties are also much more likely to have had their water shutoff in 1997 (10%) versus non-CDs (3%). Macalester research student, Claudia Fonkert, mapped both contract for deeds and areas with low investment in the city of St. Paul. She found that areas with high numbers of contract for deeds had low numbers of building investment dollars.

c) Data Source: 1997 PED and 1997 County Property Records and Revenue. Data Concerns: I sorted through over 3000 records and compared property owner name with taxpayer name. This only makes it a potential CD versus a actual CD, because a husband and wife could have different names (one pays mortgage, the other tax) or the records for owner may be older than the records for the taxpayer. Property records can be outdated by two months. I received data for free through PED, but it costs about $20 for each attribute alone (e.g. ownership name) from County Property Records and Revenue Dept.



Potential Data Users: PED, County Property Records and Revenue Dept., IRIS, H-MARC and HMC. Inputs by block groups, residents, tenants and owners about tenant-owner disputes.

d) Potential to Solve Distress: Solving housing distress from problem ownership contracts would be similar with dealing with absentee landowners (See Ownership Vicinity: Potential to solve distress). In neighboring Frogtown, there were a number of CDs that were under the title of four persons. Tracking the names of titleholders of contract for deeds and listing complaints or problems associated with their properties would be helpful in a collaberation between community and government groups. This would grant reason to pressure owners of problem properties and would give leverage during mediations between owners and renters.

H-MARC also prevents some of the distress from CDs by giving reasons why these contracts are problematic to both homeowners and prospective renters. H-MARC's community information clearinghouse and the Hamline Midway community paper could also educate residents of the problems associated with contract for deeds.

9. Institutional Owned Residential Properties.

a) Description: Institutional residential properties are owned by either Hamline University. University Owned Homes are often not renovated by the university, because the university frequently has intentions to expand new facilities onto the property. It was one of the initial goals of H-MARC, the local CDC; to confront deteriorating university owned residences. Patrick Sheehy, a local block group member, mentions that Hamline University has been "a bad actor" in communicating with local residents about their intentions with the houses they own. Sheehy

notes that not all universities act in this way. For example, he cites Macalester College as doing a great job with communicating its intentions with the surrounding community. Macalester also has made a pledge not to buy up new property and focuses on developing only on its existing property.

The lack of concern or investment into the homes owned by Hamline University leads to the deterioration of the house. In the past these homes have been demolished for university parking lots and buildings. Demolition is counter to the plan of Hamline Midway community groups to provide affordable housing in the area, because it reduces the number of homes available and lowers the vacancy rates for people looking for homes.

b) Spatial Patterns and Statistics: There are 29 residential properties owned by Hamline University that are within a 1 block radius of the institution. The number of properties that are owned by this institution are too small for relevant statistical analysis. Gauging for the distress in these properties may best be measured by a case history of demolished properties and rezoning in Hamline Midway.

c) Data Sources: 1997 St. Paul PED and 1997 Ramsey County. Data Concerns: Property records can be outdated by two months. Received data for free through PED, but it costs about $20 for each attribute alone (e.g. ownership name) from County Property Records and Revenue Dept. Hamline University owned properties were determined by Beth Hyser at H-MARC. The 1997 Ramsey County Records about Hamline University were outdated.

Potential Data Users: St. Paul PED, Ramsey County Property and Revenue, IRIS, H-MARC, and Hamline Midway Coalition.

d) Potential to Solve Distress: The housing distress caused by institutions in Hamline Midway could be alleviated by more communication between Hamline University and the local community about the intentions and plans for residential properties owned by institutions. If the intention is to demolish housing, these institutions need to find ways to help supply housing that is in great demand. They also need to accommodate for the needs of the existing tenants.

Another way to stop this distress is for the community to challenge changes in the zoning of these properties. If community organizations can drum up the support to stop re-zoning they would likely prevent institutions from buying more residential property that will be used for expanding their facilities.

B. Indicators Conclusion: Summary of Hamline Midway HEWS Indicators

1. Description. The final product of this HEWS model is the summary of all previously mentioned indicators. Each indicator was given a specific weight. Some indicators were seen as a greater contributor to housing distress than others. The indicator's weight was determined from other research (see Mardock 1998), from the statistical findings of the indicators and through discussions with Dave Alstead and Beth Hyser of H-MARC.

The weight of each indicator follows with reasons the weight was given. Properties not mentioned with the indicator received a weight score of "0".

1) Housing Conditions. Below Average housing conditions received a "3" and poor housing conditions received a "4". The weight was somewhat heavier because housing conditions was the only indicator for the physical structure of the property.

2) Property Value Decreases more than 10% received a score of "1". The weight was low because value decreases only hint at the possibility of interior structural problems at the property.

3) Water Shutoffs (1997). Properties that had 1 water shutoff received a score of "2", properties that had 2-3 shutoffs received a score of "3" and properties that had 4 or more shutoffs received a score of "4". Water shutoffs received a heavier weight because water shutoffs are likely predicting fiscal distress.

4) Mortgage and Tax Distress. Properties that are mortgage foreclosed or tax forfeited received a score of "1", because the property has already reached a high level of distress. Thus, the indicator is less predictive.

5) Crime by Street Segment. Residential property on a street segment with 5 or more crimes received a weight of "2". They received a more average weight because there are not exceedingly large numbers of crimes in Hamline Midway residential areas, but received a "2" because crime directly threatens residents and their investment into their properties.

6) Proximity to Vacant Units or Land. Properties within ½ a block of a vacant unit received a score of "1". These properties were on either side of the street from a vacant unit or behind a vacant unit. Properties that were next to a vacant unit or lot received a score of "2". This includes properties on either side of the vacant or directly behind it. These weights increase according to the number of vacants on a block or by how many vacants a property is next to. For example, a property that is next to a vacant and is within ½ a block from another would receive a score of "3". This indicator is heavier because vacant units typically bring down property values of homes in proximity of it, thus directly affecting resident investments into their properties. (see Goetz et al. 1997 and Mardock 1998)

7) Ownership Vicinity. Homeowners that lived outside the city, but in the metro area received a weight score of "0.5". Homeowners that live outside the metro scored a "1" and owners living outside the state received a "1.5". These weights are somewhat lighter because the indicator measures more of susceptibility for distress than a tangible problem that potentially leads to more distress. For example, owners outside the city do not necessarily cause housing distress, but water shutoffs do constitute distress and are likely to lead to greater distresses.

8) Potential Contract for Deeds. Properties with potential contract for deeds were given a score of "1". Contract for deeds were given a lighter weight because they are more of a susceptibility to distress than a problem than has potential of creating more distress. Contract for deeds are not necessarily distresses or cause distresses, but they are more susceptible to cause distress.

9) Institutional Owned Residential Property. Properties owned by Hamline University received a score of "1". This indicator is lighter because it measures the potential intention of the institution to cause housing distress, but it does not necessarily mean the distress will be caused.

The sum of all indicators was classified into 5 groups. For susceptibility of housing distress, scores of 0 - 1 received a description of "little" distress, 1.5 – 3.5 received "some", 4 – 6 received "moderate", 6.5 – 8 received "high" and scores of 8.5 – 11 received a "extreme" description. It should be noted that these are descriptions for the susceptibility for distress and do not necessarily constitute an actual distress. It should also be noted that there are a large variety of reasons these distresses occur.

2. Spatial Patterns and Statistics. Distressed properties can be found throughout the Hamline Midway area. Concentrations of distressed properties can be found along Sherburne Avenue east of Snelling, on Van Buren between Pascal and Syndicate, on a block on Charles between Syndicate and Griggs and on Minnehaha between

Flow Chart of Potential Model for Housing Early Warning System:

Condition Indicators:

Housing Conditions
- 0 — Above Average
- 3 — Below Average
- 4 — Poor

Property Value Decrease
- 0 — Little or No Decrease
- 1 — More than 10% Decrease

Financial Stability Indicators:

Water Shutoffs
- 0 — None
- 2 — 1 Shutoff
- 3 — 2 -3 Shutoffs
- 4 — 4 - 6 Shutoffs

Mortgage and Tax Distress
- 0 — None
- 1 — Mortgage Foreclosure
- 1 — Tax Forfeiture

Social Condition Indicators:

Crime by Street Segment
- 0 — 0 - 4 Crime 9 month period
- 2 — 5 - 9 Crimes 9 month period

Housing Early Warning System Summary: Sum of Indicator Weights

Weights:	Susceptibility for Distress:
0 - 1	Little
1.5 - 3.5	Some
4 - 6	Moderate
6.5 - 8	High
8.5 - 11	Extreme
0	Non-Residential

Vacancy Indicators:

Proximity to Vacant Unit
- 0 — Distant from Vacant
- 1 — Within 5 - 8 Units of Vacant
- 2 — Next to Vacant or near 2 Vacants
- 3 — Next to Vacant and Near other Vacant
- 4 — Next to Two Vacants

Ownership Indicators

Ownership Vicinity
- 0 — In City
- 0.5 — Outside City
- 1 — Outside Metro
- 1.5 — Outside State

Potential Contract For Deeds
- 0 — Non- C.D.
- 1 — C.D.

Institution Residential Ownership
- 0 — Other
- 1 — University Owned

Legend:

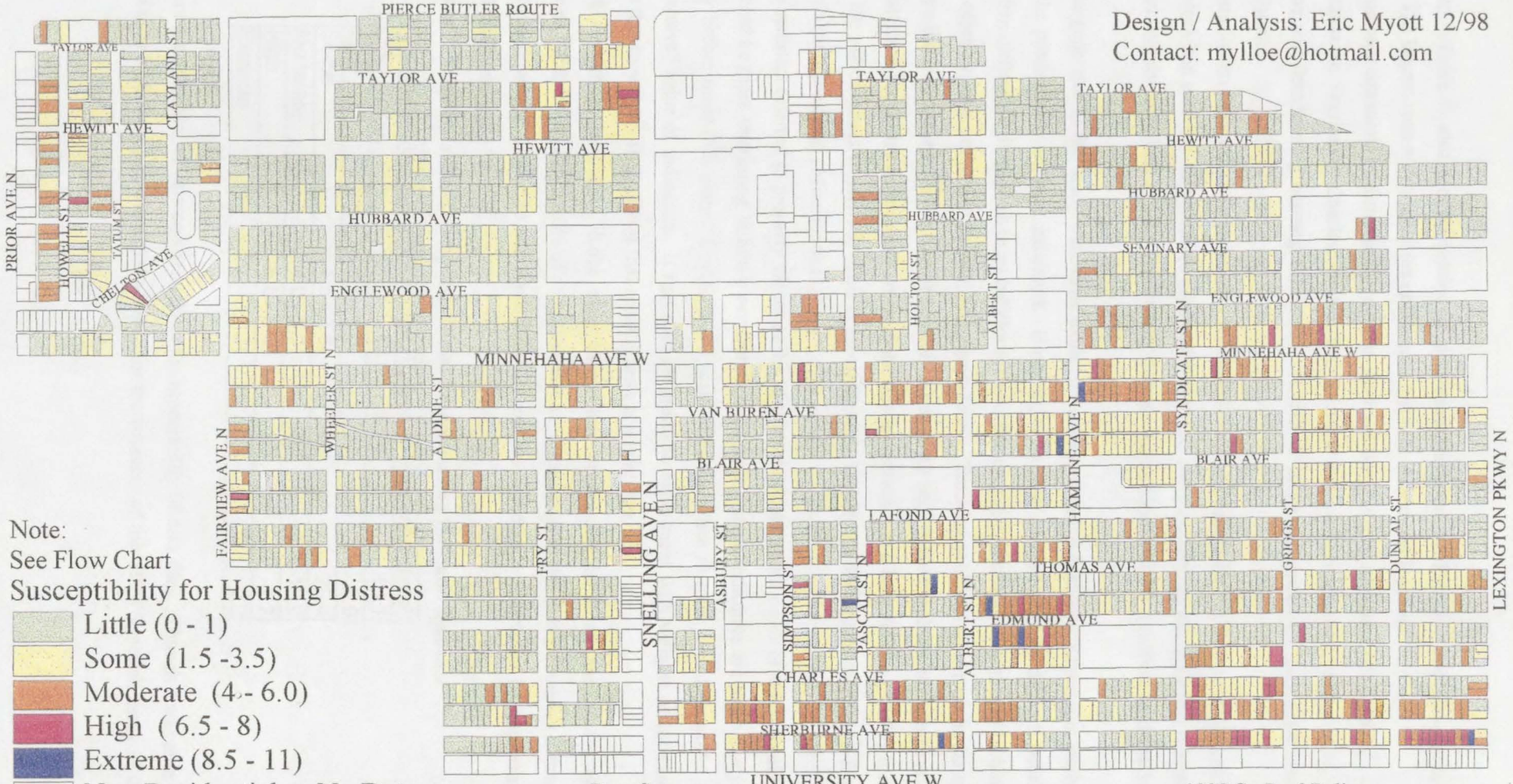
Description of Indicator — # =Weight of Indicator

Design: Eric Myott 12/1998

Conception: Eric Myott, Beth Hyser, and Dave Alstead

1997 Hamline Midway Neighborhood
Summary of Early Warning System Indicators

Design / Analysis: Eric Myott 12/98
Contact: mylloe@hotmail.com



Note:
See Flow Chart

Susceptibility for Housing Distress

- Little (0 - 1)
- Some (1.5 -3.5)
- Moderate (4 - 6.0)
- High (6.5 - 8)
- Extreme (8.5 - 11)
- Non-Residential or No Data

(Weight of Indicator in Parentheses)

Data Sources:
1997 St. Paul PED
1993 and 1997 Ramsey County Properties
1997 MLS
1996 H-MARC
1998 St. Paul Police
1997 St. Paul Water Utility
1998 Public Health Code Violations

Syndicate and Dunlap. There is also a concentration of distressed properties on Fairview and Howell facing industry to the west. The largest concentration occurs on Edmund between Albert and Hamline.

Many of these concentrations of distressed properties were not surprising to members of H-MARC. The concentrations of distress on Sherburne, Charles, Howell and Fairview have historically had vacant units, low property values, crime and deteriorating housing conditions. A rash of thefts influenced the concentrations on Minnehaha and Van Buren.

The concentration on Edmund was a surprise to H-MARC members, especially the degree of distress that was occuring. This block had a variety of indicators causing the distress, and many homes had different indicators detected. The Edmund concentration had 3 of the 9 extremely distressed properties and the rest were moderately or highly distressed.

The statistics generated in this study were more exploratory than extensive analysis. Regression analysis may help determine the predictibility of these indicators. However, regression analysis may be difficult because cause and effect are often difficult to distinguish in an indictor system. For example, vacant buildings may be both a cause and a effect of other housing problems (Sawicki and Flynn 1996). Tracking problem properties in the area and how they score on a indicator system should also be helpful. Also, going back in time with the indicator system (say 1996) to see if distressed properties experienced worse distresses or vacancies at a later date (e.g. 1997) is also a good way to gauge the effectiveness of HEWS. This is precisely what Laurie Mardock plans to do in a future report on EWS in Central neighborhood , Minneapolis.

Many of the statistics referred to property values or the likelihood crimes would occur or water would be shutoff in 1997. It would be more interesting in future research to determine if some indicators are more likely to show up at a property before other indicators. Developing a scale of early to late distress would be useful for determining the "preventive" value of indicators. It may also be useful to experiment with weights of indicators from previous years so that they better fit problems that actually arise at a later date.

Of the 3398 residential indicators 58.6% experienced little or no distress at all and 28.4% only experienced some distress. This leaves only 13.0% of properties that experienced moderate to high housing distress. This substantially narrows down the properties that have difficulty and that need to be addressed by community organizations like H-MARC (see figure 7).

Figure 7: Total Hamline Midway Residential Properties and Indicator Scores.

Distress Level	Distress Score	Properties	Percent of Total
Little (None)	0	1759	51.7
Little	0.5 - 1.0	236	6.9
Some	1.5 - 3.5	966	28.4
Moderate	4.0 - 6.0	370	10.9
High	6.5 - 8.0	58	1.7
Extreme	8.5 – 11.0	9	0.2

3. Data Concerns. There are a number of data concerns about the accessibility of data files. Though I was able to gather a database for Hamline Midway properties that allowed for the structure of this HEWS model, many of the

indicators were derived from paper records or by cross referencing data files. This meant that I spent a substantial amount of time manually inputting data into the Hamline Midway database. However, collecting database files for the HEWS indicators should be easier over the next few years with the development of a integrated database system in St. Paul and Ramsey County. Many departments expressed that data would become more accessible, especially if HEWS was implemented.

This HEWS model also lacks updated data. Most of the data was compiled from a one-year period and though it should be useful to H-MARC, it is not very predictive. Data will become more updated and accessible as the city and county integrated system is implemented. A data integrated system would also make it easier to change the records as property attributes change. Government department data can often lag behind two months (Blumner 1998).

Another concern was the lack of more predictive information for HEWS. Information such as code violations, 45-day water shutoff notices, permit investments in dollars and tax delinquencies could replace many of the less predictive indicators used in this model. These indicators have been used in both the Chicago and Los Angeles EWS for housing. Again, these records may become more available as the integrated database system becomes developed. In the case of 45-day shutoff notices, the Water Utility would be willing to provide notices at properties if HEWS is developed in Hamline Midway and an arrangement is made about how the data is used.

This leads to the last concern about privacy issues. These concerns have been strongly expressed by both community organizations and government department staff. Therefore I recommend the following details regarding privacy issues in the development and use of HEWS:

1) Understandings about data uses are made between the government sources and the community organizations. This could also help strengthen collaborations between government and community groups. Also, community organizations may find sharing their findings to government staff useful in informing them about issues in their neighborhoods.

2) Privacy sensitive data should <u>not</u> be freely accessible through the internet. I believe both the Chicago and Los Angeles early warning systems have shown this to be problematic. Community organizations would be able to access neighborhood data through CD-ROM disks or regular diskettes, and/or receive a special secured account via the internet (See Millinis 1999).

3) Locally generated information by community organizations should be controlled by those community groups (see Elwood and Leitner 1998).

4) Residents should have input about information use within their communities when privacy is an issue.

5) The Joint Powers Act should apply to HEWS, with only government and community groups in St. Paul and Ramsey County using data that can be used for whole neighborhood analysis.

6) Community organizations should publish their data only when taking into account 1) and 4).

7) Community organizations should be required to be educated about privacy issues when they are allowed to use HEWS.

The ability to detect housing distress is difficult with data alone. It will be important for input from government, researchers, community organizations and members about what constitutes and causes a distress. Laurie Mardock found that many of the reasons that houses became abandoned in Minneapolis Central neighborhood were complex and non-quantifiable in a database or risk index (Mardock 1998). It is also difficult to determine cause and effect of many of these indicators. Vacant housing, crime rates and property tax delinquency can be both a cause and effect for housing distresses (Sawicki and Flynn (1996).

Data should be tested for error through both statistical inquiry and tracking or surveying the indicators accuracy. For example, vacant units where checked by driving through the neighborhood and determining if properties on the vacancy list were in fact vacant. It would be important for future development of HEWS for government sources to sample their data used for indicators to estimate their margin of error. This will also become more important and easier with the development of a data integrated system.

4. Potential Data Users. There were a number of groups listed as using and providing data for HEWS. This list could grow if more indicators are used. For example if tax delinquency or code violations became an indicator, new departments would have to be involved with HEWS maintenance. This would require the community organization to develop understandings about how the data will be used and how the groups can cooperate to help prevent housing distress from occurring in the neighborhood.

Figure 7 is a chart of the existing indicators and the providers, users and groups capable of providing inputs into the context of the indicator occurrence. Government sources are often the providers of HEWS data. They are also capable of providing inputs about findings and errors with the data. Government departments are also capable of providing informational inputs about indicators that may apply indirectly to their departments. For example, the Codes Violation Department may be able to gather inputs about code violations at houses where the Police Department found drug activity.

Community organizations and groups are able to input the context of situations. They are often aware of the details of owner-tenant interactions and criminal activities that are useful for case to case assessments. For example, the tracking of distressed properties by H-MARC and HMC provides a case history of problems associated with the property and complaints by owners, tenants and neighbors. These groups can then assess the problem through evidence that could confirm or deny the circumstances of the distress. Community organizations are also capable of windshield surveys that can confirm or negate the occurrence of an indicator. This is true of both housing conditions and vacant properties. Also, community knowledge of changes in ownership or investments into housing structures often exists before changes are made in official records or data.

Participation in HEWS should not be limited to groups listed on figure 7. These groups are the most likely capable of generating good information and context to the data or the distress of the indicator.

Figure 8: Group Providers, Users and Inputs for HEWS Indicators.

	Housing Condition	Property Value Decrease	Water Shutoffs	Mortgage and Tax Distress	Crime	Prox. To Vacant	Ownership Vicinity	Contract for Deeds	Institutional Owned Residential
PED	I	P,X,I		P,X,I		X	P,I	P,X,I	P,X,I
PRR		P,X,I		P,X,I		X	P,I	P,X,I	P,X
MLS		P,X,I					I	I	I
Water Utility			P,X,I			I			
Fire Dept.			X,I		X,I	I	I		
Police Dept.					P,X,I		X,I	X,I	
IRIS		P,X,I		P,X,I			P	P,X	I
PH Code Violations			X,I		I	P,X,I	I	I	I
H-MARC	P,X,I	X,I	X,I	X,I	X,I	X,I	X,I	X,I	X,I
HMC	I	X,I			X,I	X,I	X,I	X,I	X,I
Block Groups	I	I			I	I	I	I	I
Tenants/Owners	I	I	I		I	I	I	I	I

Legend: P = Data Provider X = Data User I = Input into occurrence of indicator.
PED = Planning and Economic Development, PRR = Property Records and Revenue, MLS = Multiple Listing Service, PH = Public Health, H-MARC = Hamline Midway Area Rehabilitation Corporation, HMC = Hamline Midway Coalition.

There are some groups listed on figure 7 that need clarification of their involvement in providing, using or giving inputs to the data. They are:

1) Multiple Listing Service (MLS). MLS provides listings of properties sold. Their list is useful for the most current trends in property values in Hamline Midway. MLS may change an indicator's status with the change of ownership.
2) Integrated Realtor Information System (IRIS). IRIS is a database system that is often used by realtors. With IRIS you can query a specific property and obtain information about the land, owner and building. IRIS is regularly updated with government data and is useful for tracking changes at distressed properties. Later in my research I found out it was possible to gather aggregate data from a specific area such as Tax Delinquencies. IRIS could be quite useful for H-MARC if it would like to include data not regularly available or they would like to create in-house maps.

Residents should not be allowed to use neighborhood data when privacy is an issue. However, residents should understand how this data is being used by their neighborhood organizations. Community organizations should communicated their intentions and about how the data will be used in analysis so that residents understand the strategies involved in HEWS (See Elwood and Leitner 1998).

If future development of HEWS ensues, more agreement about data use is needed between community organizations and government sources. Agreements about the data access and use must be established between community organization users and government sources (Millinis 1999). Coherent methods of measuring the accuracy of data and confirming the data will also have to be developed in a coherent way that is useful for both government departments and community groups.

6. Potential to Solve Distress. There are various ways that H-MARC and HMC can solve housing distress in Hamline Midway. The first is to use in-place strategies like H-MARC's housing grants for home improvements or

direct developments of vacant land. In-place strategies to solve distresses in the neighborhood include community pressure on government departments or officials and the potential mediation of disputes between landowners or tenants. Resident inputs will help define the context of distress in the area and will keep government and non-profit community organizations accountable for devising benefits for people as well as benefits for place (Sawicki and Flynn 1996).

There are also pro-active strategies that would prevent distress from developing. An example of solving housing problems with preventative pro-active strategies was found in the proposals to track large water use increase by H-MARC and the Water Utility. As the indicators become more preventative with more updated and accessible data, HEWS will increase the capability to create preventative strategies. Community organizations will need to formulate plans and strategies to confront housing distress at earlier stages. Future demonstrations of community organizations detecting housing distress with capabilities to solve those problems will likely persuade funders and government officials to take the neighborhood's situation and proposal more serious (Craig and Elwood 1998).

With oncoming of data integration, government departments will need to collaborate more often. The inclusion of community groups in information sharing and the decision-making processes as well as the interaction of government departments and agencies, may solve many housing problems whose solution was tangled in bureaucratic compartmentalization.

For HEWS to work most effectively there needs to be cooperation between various groups that are concerned with housing problems. However, often a dichotomy exists between government and local community groups about problems in general. Government staff can feel that community groups fail to see the larger picture or are susceptible to bias or unwarranted perceptions about dilemmas in the city. Community residents, in turn, can see the government as poorly managed or that they are concerned with politics or commercial enterprises more than the community.

Government has the power to be the guardian for laws, regulations and policies that encourage fair practices and counter problems in housing. The assets government carries include the ability to analyze the city, as a whole to determine where grants should go or how housing policies should be implemented. Where communities group often only concerns themselves with issues or funding within their own boundaries, a city government has the ability to assess each neighborhood to see where housing problems are the greatest so the city can act when communities are in conflict over grants and policies. On the other hand, it often takes a community to pressure the city for it to act upon the problem. This is especially true if the neighborhood that has the problem lacks the political and economic will for the problem to be dealt with immediately by government agencies.

When speaking to Dan Paul of St. Paul Planning and Economic Development (PED) about the implementation of HEWS, he was concerned about clean and accurate data that could be analyzed to determine and demonstrate the accuracy of the system. Joel Spoonheim of PED was also wary of the use of some indicators, because they lacked accuracy. When I asked him about the community clarifying the data as situations arise, he felt that the community might be acting in the role of the government's duties.

These responses make sense from the perspective of government: the accuracy of the data is important for the city, because as a bureaucratic unit, it is unable to determine the context of situations in the neighborhood and government depends upon clean data to make recommendations or to set policies. Government is also rightly concerned about communities assuming the role of government when bias or shortsidedness plagues a group of local people or when privacy issues are encountered when using its data. Government needs to act cautiously in decision-making. However, government fails when it does not listen to the complaint of community members. Government also fails when it regards the community's insight, ability to understand the context of problems, or ability to participate in problem solving as invalid.

Government and community organizations have aspects of the solution to housing problems and it would be problematic if either the city or county government or the community organizations or CDCs were left out from defining the problems or formulating the solutions.

The combination of HEWS with other research and evidence should also add to the discussion about housing problems, policies and solutions. HEWS should also be thought about and used in context of current housing issues, such as housing discrimination and affordable housing. Because housing issues relate to economic, social and political issues, HEWS should not be a vacuum for ideas about the causes or solutions to housing problems (See Sawicki and Flynn 1996). Nor will any quantifiable database or risk index capture all causes or cases of housing distress (Mardock 1998). HEWS should be a powerful tool as well as a systematic approach to deal with housing problems. It should be used to focus attention to empirical evidence, current policies and citizen concerns. HEWS as a high-tech database is dispensable, the collaboration of people addressing housing issues are not.

VI. Feasibility Recommendation

There are a number of reasons that HEWS is feasible for Hamline Midway and H-MARC both in the short term and long run. The resources to develop HEWS are available and it is likely HEWS will become more powerful and easier to use over time. I will first give the reasons HEWS is feasible for Hamline Midway and H-MARC and then make final recommendations about the site and maintenance of the system.

The following are reasons HEWS is feasible for Hamline-Midway and H-MARC:

1) Location. Hamline Midway has the stability to attempt to prevent distress before it worsens. Both H-MARC and HMC are good prospects for HEWS use. H-MARC has familiarity with research, housing issues and some database skills (see Blumner 1998). HMC has members with both research and GIS skills. Both the neighborhood CDC and its community planning coalition should be involved with HEWS development and use. H-MARC and HMC have developed a working relationship while tracking distressed properties in the area and have contextual knowledge of neighborhood situations that government departments do not. Also, both groups willingly receive inputs from residents.

2) Because of the probable on-going creation of a integrated data system in St. Paul and Ramsey County government departments, it will increasingly become easier to access data that can be joined into the HEWS database. An integrated system will also likely make the indicators more current, accurate and predictive for HEWS.

3) Developing community uses for government data would likely encourage the integrated system to be more flexible for community research needs. For example, if a community demonstrates the usefulness

of neighborhood analysis through HEWS, the system may be set up for community organizations to receive neighborhood rather than single address information.

4) The recently created HEWS model detected a number of potentially distressed properties. The statistics point to the likelihood that these indicators accurately detect housing distress.

5) Community organizations are now included in the Joint Powers Act. This makes data available when research is performed by or for their neighborhoods.

6) HEWS could help strengthen the collaboration of H-MARC, HMC and government departments. Proposals by the Water Utility give evidence to this possibility (See Water Shutoffs).

7) The products of HEWS (maps, chart, statistics, etc.) would give H-MARC powerful evidence in proposals for both government and funding. They could also help develop documented plans for targeting grants.

8) HEWS encourages community-based planning and decision making. H-MARC and HMC could inform city and county government about the context of situations which is often left out of public policy and practices. Also, H-MARC and HMC could likely make better decisions about solutions for distressed properties, given their investment in the community and their knowledge of context in the neighborhood. A community organization is likely to know if the residents' well being is improved with the improvement of the neighborhood as a whole (Sawicki and Flynn 1996).

This feasibility is also dependent upon the site location and capability to maintain the Hamline Midway HEWS database. In the short term, I will recommend the Science Museum of Minnesota as a initial site for HEWS to develop. I make this recommendation with the agreement that the Science Museum does not allow museum visitors to access information where government departments do not want their data published or to release indicators that intrude upon privacy rights of individuals. The Science Museum should provide a security code for the HEWS model that is only accessible through the permission of the community-housing group.

This recommendation is also contingent upon community-housing groups' rights to change the arrangement of the site location. The housing group should maintain the right to the database and the Science Museum should not interfere with the agreement a community-housing group has with data providers in government. The housing group should also maintain the liberty to use HEWS the way it wants as long as it follows the agreements it has with data providers with regards to privacy.

The Science Museum, as the site of HEWS, should be understood as a short term goal. The long term goal will be to find ways HEWS can be self-supported by community groups. However, it will take time for HEWS to develop into a refined accurate system and for data providers to upgrade their systems and develop the routine of providing data for the HEWS indicators.

I also recommend that in the short term, HEWS should be maintained by both community groups and university student researchers. However, community groups should be able to dictate the direction of HEWS. Community groups and universities should complement each other with their capabilities to assess housing problems. I recommend that the University of Minnesota CURA help aid in this effort. CURA students have a history of working on community projects and are currently working on one such project at the Science Museum site. Their familiarity with the Science Museum computer system would be helpful in speeding up the process of performing

HEWS analysis. HEWS could also be maintained with the help of non-profit community research groups, like Crossroads Resource Center or the Urban Coalition. This would cost money, but in the long run it would keep options open about the group that maintains HEWS.

I recommend H-MARC should invest in database training for basic Geographic Information System (GIS) skills. Dave Alstead and Beth Hyser of H-MARC would be a good candidates to learn these skills, because they have knowledge about similar database systems (i.e. IRIS). Community-housing groups should have members with the capability of basic GIS skills. Funding for training should be sought from LISC. Eric Stoller of HMC may also be capable of bartering GIS assistance.

Science Museum and university student maintenance would make HEWS less expensive to maintain than by using a private group. Their alliance would likely generate new support for HEWS development. However, private non-profit groups should be familiarized with HEWS. Non-Profit research could be a helpful ally in determining community concerns and indicators for neighborhoods.

Finally, I recommend that the HEWS project for H-MARC be used, because the database model exists for Hamline Midway. I believe that H-MARC would be the appropriate first host for HEWS, because of its capabilities for research and inputs for HEWS indicators. I also think that H-MARC has an open and cooperative communication network with both community and government departments. H-MARC also has the capabilities to generate funding through the use of HEWS and the ability to create programs to help solve housing distresses in the Hamline Midway neighborhood.

Other community groups could eventually become interested in using HEWS. Therefore, research should focus on the Hamline Midway HEWS model so it could contribute to future systems in other neighborhoods. Researchers will need to track the indicators in Hamline Midway to determine the indicators' strengths in relating to housing distress. Researchers also need to pay attention to work on other HEWS models, like the one used in Central Neighborhood in Minneapolis. Other EWS projects will likely generate findings useful to the HEWS project in St. Paul. If other community groups want to use HEWS or when the integrated database is implemented, further recommendations will need to be made on the site and maintenance of HEWS for Hamline Midway.

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